

ON THE

THEORY OF VITAL FORCE:

OR THE

True Basis of Medical Science.

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"Read not to contradict and confute,—not to believe and take for granted,—but to weigh and consider."—BACON.

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P R E F A C E .

THE human mind is so constituted that there are few great truths which it can see in all their relations; and from this cause arise partial systems, pretentious dogmas, and every species of fanaticism. He, therefore, who would discover new truths, must examine the facts submitted to his judgment from several points of view; and not attempt to generalise until he has ascertained that his first impressions are in harmony with other principles whose truth is admitted by the universal consent of mankind.

The author believes that such has been the process by which he arrived at the leading ideas which he has endeavoured to convoy in the following pages. He has no ambition to be the founder of a new and exclusive medical sect: on the contrary, he conceives that the exercise of "the

right of private judgment" is not more the privilege than the duty of everyone who undertakes the responsibilities of medical practice; and the light in which he regards his *new law of healing* is simply as a compass to guide the practitioner through the ocean of knowledge, and to mitigate the evil results of delusive experience. Hippocrates has well said that "Experience is fallacious;" and the daily recurrence of contrary testimony with respect to simple matters of fact, shows that observation, which is not directed by reason, is quite unfit to be trusted in questions relating to medical science.

As an instance of false experience, I would remind the reader of the great variety of drugs which were had recourse to during the last outbreak of cholera. Whilst the virulence of the epidemic poison continued unabated, no medicine was successful; but, after the virus had almost worn itself out, the pages of our medical journals were *filled* with accounts of wonderful cures, apparently wrought by the very same drugs which before had so signally failed. Surely no reflecting mind can avoid the inference that it

would be better for the patient to be doctored with "infinitesimal nothings," than be subjected to heroic treatment which "kills and cures" with such marvellous impartiality. Yet such is experience, falsely so called!

With regard to Hydropathy, he only regrets that it has not had a greater number of creditable representatives. Why it should have come to be considered as allied to Homœopathy, is to him a mystery, because their respective principles *are absolutely antagonistic*. But the use of baths, in every form, is quite compatible with ordinary practice; and the system of having regular establishments for the cure of disease is in accordance with every sound principle of social economy.

There are some sayings of the celebrated John Abernethy which are so *apropos* to the theory of Vital Force that they may be here alluded to. The first shows his disbelief in the dynamic power of medicines, and the second his faith in the value of good ventilation (*i.e.*, oxygen).

On one occasion, in instructing his class of students, he said, "There is no more a '*strengthen-*

ing medicine' than there is a '*strengthening plaister*,' and the latter ought to be applied to the shaven scalp of him who prescribes it."

Speaking of Disinfectants, he said, "They are sometimes very useful—very useful indeed—as they *make such an abominable smell* that they oblige the patient to get done what ought to have been done at first, namely, to have the windows thrown open."

On another occasion, being about to deliver the introductory lecture of the session to the numerous students who thronged to hear him, he looked round upon their upturned faces, and said, with a voice full of pity, "God help you all, what is to become of you?"

If the author's views be correct, he may well say the same.

Having devoted eleven years to the study of his profession, both in this country and on the Continent, he feels that he is entitled to a fair hearing; and he hopes that the open expression of his honest convictions may, at all events, serve to elicit the truth.

Dublin, 1st September, 1862.

PART I.

THE THEORY OF VITAL FORCE: OR THE TRUE BASIS OF
MEDICAL SCIENCE.

PART I.

On the Theory of Vital Force.

THERE is nothing more disheartening to a student of medicine than to listen to the confessions of those who have retired from medical practice after having attained eminence as practical physicians. All unite in admitting that it is the custom to give too much medicine, and to give it too frequently; but all are equally opposed to the various exclusive dogmas and medical sects which have from time to time sprung up to "strut and fret their hour upon the stage." It is but recently that a distinguished physician and editor of the first medical review in the world, after practising the art of medicine for half a century, openly declared that a large proportion of the recoveries which take place in ordinary practice do so *in spite of* the treatment adopted, and that many cases prove fatal in consequence of the medicine given. It is not wonderful that this should be the case,

when we consider that medicine alone of all the sciences has no settled fundamental principles. Few medical treatises are agreed in their definitions of health and disease, and many of them speak of disease as a distinct "entity," to be driven out of, or expelled from, the body. Still worse, a very distinguished physiologist actually speaks of life as "the sum of those functions by which Death is resisted;" yet it is easy to show that life may exist without any functions whatever being performed, as in the case of a seed (a grain of wheat being capable of germinating after having remained dormant for thousands of years in the coffin of an Egyptian mummy), and it is likewise apparent that death is simply a negative expression, implying the absence of life, which has a positive existence.

We know that life cannot be generated by a fortuitous concourse of atoms, because it only manifests itself through organised structures, all exhibiting evident proofs of design. This is just as true of the smallest object in creation as the largest. Thus we find

"The shapely limb and lubricated joint
Within the small dimensions of a point;
Muscle and nerve miraculously spun,
His mighty work who speaks and it is done."

Life, then, is not a property of matter, but

is a distinct creation ; its amount may be increased by generation through organised structures, and by means of the various forces of nature, but certain conditions are essential to its continuance, although in themselves incapable of originating it.

According to the Mosaic account of the creation, when God made the world, he rested, or ceased from active operation, and this is strictly in accordance with the teaching of modern science. Matter is now known to be indestructible, and there is every reason to believe that the same is true of Force. All the physical forces can be proved to be correlated to one another ; and the forces by which life is maintained are plainly convertible into the various physical agencies by which the other operations of nature are conducted. My belief is that there is but one kind of force in existence, and that is the will of God, acting according to fixed laws, and once for all set in motion at the creation of the world. On the vulgar hypothesis that animals originate force, the gross amount of power operating in nature must be constantly increasing ; and assuming the doctrine of the conservation of force to be true, there is nothing to prevent the chemical action and heat in the world from accumulating to such

a degree as to destroy all the organisms which are upon its surface. I am aware that the hypothesis which I enunciate is liable to be opposed as inconsistent with the special providence of God; but it is not really so, as we may look upon special providences as rather *guiding* forces already in operation than as either renewing or opposing them. Moreover, my theory has the advantage over every other of not ascribing to God either the monstrosities of physical generation, or the perversions of the moral nature of man; and therefore accords with the Scriptures, which describe God as having made "man" (or the whole human race) in creating our first parents, and setting in motion those various natural forces which were requisite for the continuance of the species.

The main idea which I have here sought to bring out clearly is, that in the building up of organisms, the ordinary physical forces are made use of, and that the whole of hygiene and therapeutics consists in a knowledge of how these forces operate upon the body, and how remedies can be best applied in accordance with its natural constitution. It is only by going back to the first generation of living organisms that we can obtain clear ideas of either life, health, or disease. Thus it is plain that the minute germs from

which living creatures spring are not repositories of force, and that they are rather acted upon by surrounding forces (in accordance with their original constitution) than themselves active in controlling external agencies. In other words, they bring no force into the world, nor, when they cease to exist as organisms, do they carry any force out of it. It would be perhaps tedious to enter into an elaborate description of the way in which force operates upon the materials of which this world is composed, and there is danger of making a thing too plain, lest superficial thinkers should mistake it for a truism. But it is necessary to throw out a few suggestions, which may make my subsequent argument a little plainer. Perhaps the lowest organisms merely represent force in combination with inorganic matter, and the higher ones complicated reservoirs of force in combination with *organised* matter. For instance, the power of generating nerve force exists in the human body as the result of the assimilation of organised food and the presence of a circulating fluid constantly renewed. The quantity of nerve-force capable of being thus generated will depend upon the perfection of the machinery of the body, and the outward conditions in which such machinery is placed. Great exertions exhaust

the body, because the withdrawal of nerve-force faster than it can be manufactured, deranges its delicate machinery, and renders many functions inefficiently performed for want of a due supply of this animal electricity. Many persons have fallen into the error of confounding nerve-force with electricity, but it has been proved to be quite distinct from it, although (under certain conditions) capable of producing it, or being converted into it.

Although the metaphysician may shrink from considering the human body in the light of a machine, yet it is capable of the most complete demonstration that even the human will is not a generator of force, and is never exercised at all without a stimulus of some kind or other previously operating upon the cerebrum, either through the medium of the senses, or by means of chains of thought naturally leading to the ideas upon which it is exercised. The function of the human will is to guide and direct, but not to originate, power. This is the prerogative of the Creator alone; and the sooner physicians accept the dogma that "the human body is a machine," the sooner will medicine attain to the position which it ought to occupy. The body has often been compared to a locomotive steam-engine, in order to illustrate the chemical changes

which take place within it, but I imagine that the close analogy which exists between them in the actual generation of force has never yet been recognised. The primary source of mechanical power is, in both cases, external to the machine, but the body not merely carries its fuel along with it, but also the elements of chemical and vital action, which again return to the inorganic kingdom as fast as they are disintegrated in the evolution of force.

All vital action depends upon *power* acting through an organism, and life is the condition which determines whether the external forces shall produce physical or vital changes.

When this action is sufficient in amount, and regular in its periodic intervals of action and repose, the condition is healthy life.

When the amount of force is insufficient, the intervals become irregular, and *vice versa*, when this regularity is interfered with, the power of appropriating force diminishes. The result is diseased life. From this we see that *disease is really a minor degree of life, and death is the total absence of life.*

The whole art of curing disease, then, consists in increasing the working power of the human machine, and preserving the regularity of its action.

If a handful of gravel be thrown among

the cranks of a steam-engine the motion is impeded, and becomes irregular. This is what takes place in diseases caused by impurity in the articles used as human food. When the food is deficient in quantity or nutriment a loss of power is the result, with its attendant irregularity, as a necessary consequence.

Again, if the nervous system receives a shock, there is an undue expenditure of force in a direction where it is not required, with an abstraction of the energy necessary to regularity of action; and a simultaneous loss of power and perversion of function takes place.

How very simple! you will say,—was not all this known before?

It is puerile for any man at the same time to assert that he knows a thing to be true, while admitting that he always acts upon a different principle. Yet nothing can be more obvious than that none of the medical systems that the world has ever witnessed are based upon any such foundation. The above principle acknowledges the utility of every remedy, but is utterly opposed to every system. According to it the action of a therapeutic agent may sometimes be antipathic, sometimes allopathic, and sometimes homœopathic; and it freely acknowledges the depurative properties of the vapour

bath, and the tonic influence of the water cure. It does not, however, give the least countenance to infinitesimal doses of medicine, inasmuch as, were the human organism sufficiently sensitive to be acted upon by them, it would be in hourly danger from morbid agents, which float in the atmosphere in far more appreciable quantities. The homœopathic dogma is founded upon the well-known law of reaction in the living body; and if this reaction was always sufficient, and never excessive in amount, the rule "*similia similibus curantur*" might lay claim to the dignity of a general principle. Unfortunately, however, reaction is often incapable of being produced in many cases, and in others would be extremely undesirable. If a man is suffering from loss of vital heat, there is much to fear in the sudden or excessive application of high temperature; but the indication is clearly to increase the heat of the body without rousing excessive reaction. The treatment is therefore *antipathic*, or the cautious and slow application of warmth. But if, on the other hand, he has received a severe burn or scald, the best treatment is the use of hot-water or hot-air baths, which are *homœopathic* to the injury, and whose object is equally to prevent reaction. The water-cure is an instance of the third, or allopathic

principle,—*whenever critical action of any kind is produced*. The object here is to rouse as much reaction as possible, in order to enable the system to dislodge morbid accumulations (or, as the phrase is, inflammatory matter), and to remove them from the body. In like manner, most remedies are capable of being employed on different principles. Alcohol, for instance (as a palliative), acts homœopathically in *delirium tremens*, antipathically in exhaustion, and allopathically in dyspepsia. None of these actions, however, represent any increase of vital power, which never can be *directly* increased except by strictly natural agencies.

Nor has any medicine (not chemically corrosive) the slightest *dynamical* action, as is asserted in the text-books. It cannot act except on a nervous expansion, and often not even on that, when its sensibility has been diminished by repeated excitation.

Heat, on the contrary, is necessary to vital actions of every kind; and when its internal generation is not sufficiently great, the external application of warmth is a manifest gain to the system without loss of vital energy. But the warmth produced by alcohol, or any other stimulant, is accompanied by the positive destruction of nerve tissue, and is therefore attended by

subsequent depression. There would be no injury inflicted upon the system by any amount of wear and tear, if it followed *the natural law of equable distribution* and rapid renewal. But how different is the effect of natural efforts, and the unequal drain produced by the partial operation of stimulants acting solely or chiefly upon the nervous system. The most active assimilation cannot supply such *highly elaborated* tissue as fast as it is required; and the body becomes prematurely worn out, before half of its powers have been called into operation. Nature has given us no faculty which she did not intend us to use, and it therefore follows, on the above principle, that a certain amount of bodily labour is essential to a healthy condition of the mind and the organ through which its operations are conducted.

It will be seen from the preceding observations that the notion of every man becoming his own doctor is quite ridiculous; and that no one knows how to use any remedy whatever until he first makes himself acquainted with the laws of that body to which it is to be applied. Every remedy is capable of application in some case or other, and is therefore good in itself; but no remedy is good unless prescribed in accordance with the actual condition of the patient. No prescription

is worth anything more from having formerly been of use, unless it can be ascertained that the conditions are precisely similar to those under which it was prescribed; nor is a quack who cannot give a good reason for his rule worthy of the slightest confidence because in certain cases his nostrum may happen to have been appropriate.

If this attempt to generalize and simplify the first principles of medicine has any effect in moderating that sectarian spirit which is the true "*opprobrium medicinæ*," I shall have attained the object of my ambition in writing this article, and shall consider myself sufficiently rewarded.

PART II.

PHYSIO-DYNAMIC THERAPEUTICS: OR THE USE OF NATURAL
AGENCIES IN THE TREATMENT OF DISEASE.

PART II.

On Physio-Dynamic Therapeutics.

IN my previous article on Vital Force I mentioned three principles or modes of cure which are commonly practised, and which Hahnemann asserted to be the only methods of treating disease that could possibly be employed. I trust, however, to be able to show that he was mistaken in this dictum ; and that there are three additional rules of action, which are not merely better than any of the others, but which are quite sufficient for the treatment of all morbid affections. The three first methods are the antipathic, the allopathic (or alleopathic), and the homœopathic ; which all refer to the treatment of symptoms rather than constitutional tendencies, and have, therefore, no claim to the title of general principles.

The educated physician knows very well that dropsy, for instance, is generally but a symptom

of organic disease ; and that it may be removed without removing its tendency to return. And he also knows that the flying pains of hysteria have no local existence. Their removal, therefore, can only be effected by treatment directed especially to the nervous system.

These examples will sufficiently illustrate my position, that the treatment of symptoms seldom reaches the essence of the malady, and is only likely to be really curative when the symptoms fairly represent or constitute the disease.

If I am right in maintaining that *disease is merely a minor degree of life*, then it is evident that rational therapeutics must be based on the endeavour to increase vitality ; and that whatever does not, directly or indirectly, do this, is not worthy of the name of remedy at all.

It is quite true that when any function becomes irregular, whatever even temporarily restores its periodic action is a gain to the system. And it often happens that such temporary assistance enables nature to resume her accustomed regularity. But it ought to be distinctly understood that there is no drug in existence which is capable of communicating power to the system ; on the contrary, *medicinal action is simply the resistance offered by nature to the introduction of a foreign substance into the body* ; and such resistance always

implies the waste or expenditure of a certain modicum of vital force.*

The phrases "dynamization" and "poteney" have, therefore, no meaning whatever when applied to drugs; and homœopathic prescriptions can only affect the system by rousing vital resistance and causing temporary aggravation. Instances of this may be seen in the use of nitrate of silver for external application in local inflammations, and the internal use of cantharides in vesical irritation.

These drugs effect homœopathic cures *because* they cause previous aggravation, and they would have no good effect if they did not do so; the relief which they afford being due to the fact that the excessive resistance which they have roused is followed by subsequent reaction. It

* The inflammation caused by the presence of a particle of dirt in the eye is a familiar instance of vital resistance in which nobody supposes that there is any dynamic action. In the same way the Schneiderian membrane rejects snuff, and the mucous lining of the trachea and bronchi reject chlorine. In the case of a narcotic, the stupefaction arises from an adynamic interference with function, produced by (what I must call) vital incompatibility, and the different manner in which the same substance is *acted upon* by the different tissues with which it comes in contact, is a clear proof that it has no "force" within itself. It is also interesting to observe that some poisons kill by exhausting the body of vital force, and others by entirely stopping its evolution. Strychnia, for instance, kills in the same way as traumatic tetanus, and nicotine in the same way as extreme terror. Thus it is evident that nothing is explained by the dynamic hypothesis which cannot be explained just as well without it,—that it is, in fact, a most gratuitous assumption.

must, however, be borne in mind that no remedy is capable of keeping up continuous reaction, and that there is no poison, however deadly, which the system will not cease to resent. Because nature is so economical of vital force, that she only sickens to give warning; and when her voice is disregarded, she submits in silence, because the presumption is, either that the injurious influence is unavoidable, or that the ignorance and perversity which afflict her are so deeply rooted that further protestation would be in vain. As examples of this great law of nature, I may remind the reader how the body becomes accustomed to the habitual use of arsenic, nicotine, theine, opium, and other poisons, when taken in small quantities, and how even tartar emetic fails to excite nausea when its use has been sufficiently long continued.

When a patient is sinking from exhaustion, it is true that we may rouse the powers *which exist in the body* by alcoholic stimulation; but every sign of life which is thus elicited leaves in the body *just so much less vitality* than it had before.

Nor do I deny that by the use of tonics we may direct the energies of the system specially to the digestion of food; but it is also indisputable that there is no tonic (which has ever yet been discovered) whose continued and regular

employment will not induce *debility*, just because it has robbed the rest of the system of its proper quantum of nervous force, in order to give the stomach more than could be spared under the circumstances. Loss of appetite generally means deficient vitality, and indigestion generally results from the *unequal distribution* of vitality.

It is, therefore, in vain to direct treatment against the stomach in such a case, because it is either perfectly healthy, or was so until it suffered from the "*nimia diligentia medici*."

The real cause is often an anxious mind, or over-worked brain, that consumes the lion's share of the vital force which is produced in the system, leaving so much less for the functions of the stomach, liver, heart, lungs, and other organs.

When we speak of organic disease, we mean pathological change, for diseases very seldom commence in individual organs, and our whole nosological system will probably be revised if the theory of vital force is finally adopted; for I think it can be proved that every disease originates in one or other of two ways—*either loss of vitality, or interruption of function*.

(*ex. gr.*) If a man gets thoroughly drenched by rain, and is obliged to sit for some hours in his wet clothes, the constant evaporation from the surface of his body causes the loss of so

much animal heat that the system is temporarily drained of its normal amount of vitality.

The result may be, in one person a common cold, in another typhoid fever, in a third rheumatism, in a fourth pneumonia, or (if there be a strong strumous tendency, or constitutional bias), pulmonary consumption may be the ultimate result.

But, on the other hand, there may be no loss of vitality in the first instance, and the illness may be caused by the swallowing of unwholesome food, tending to interfere with some vital process, and thus diminishing the power of receiving force into the body from without.

Why, or how life causes the forces of chemical action, heat, and electricity to favour the growth of structure, we cannot tell; but we know that the oxygen which is taken in by the lungs is the material agent by which most vital changes are effected, and that its union with the carbon and hydrogen of our food is much promoted by heat and electricity. That the force which the body actually has within it is perpetually renewed from without, as well as the materials of which it is composed, is an opinion which has long been held by our most distinguished physiologist, as may be seen by the following

extract from a communication to the Royal Society: "Thus then the forces on which the animal is essentially dependent are the affinities which hold together the elements of its food, and which are the embodiments, so to speak, of the light and heat by whose agency they were combined." . . . "On the whole, there is strong reason to believe that the entire amount of force of all kinds (as of materials) received by an animal during a given period, is given back by it during that period, his condition at the end of the term being the same as at the beginning, and all that has been expended in the building up of the organism is given back by its decay after death."

This subject has been entered into in more detail by Prof. J. Le Comte (of the Confederate States of America), but is so abstruse and metaphysical that it would be impossible here to do more than allude to it. Indeed, so interwoven is it with many modern discoveries, that *the truth of the principles of healing which I am now advocating could not have been fully apprehended before the time in which we live.* Amongst those to whom we are indebted for them I may mention the well-known names of Grove, Carpenter, Laycock, Holland, Matteucci, Du Bois Reymond, Forbes, Dickson, and Bennett; and my

apparently new doctrines are simply logical conclusions from their *united* researches.* Whether I may have succeeded in placing them in a new light or not, and of *drawing important deductions from them*, is a point which I must leave to others to decide, trusting that, at all events, they may be useful to mankind.

The constant tendency of all vital action to intermit, both in plants and animals, has often been remarked, and disease is always distinguished by a want of regularity in the periodic time of one or many functions of the body. Hence it may be combated by interfering with irregular intermittent action, just as effectually as by stimulating functions that are slowly performed.

Ague, for instance, may be cured (and has repeatedly been cured) by using the cold shower-bath just at the time when the hot stage would have commenced, had it not been checked by the anti-periodic action of the shock.

* *Since writing the above*, my attention has been accidentally drawn to a work entitled "Foundation for a New Theory and Practice of Medicine," by T. Inman, M.D., Liverpool, in which conclusions similar to my own have been arrived at, although *the premises from which we start are very much at variance*. Dr. Inman expresses regret that his views *as to the nature of vital force* differ from those of Mr. Lewes (to whom he dedicates his book); and I fear that he will also find them to be at variance with the published opinions of most of our leading physiologists. But, notwithstanding our differences, I cannot help thinking that the publication of Dr. Inman's book marks the commencement of a *radical change* both in the theory and practice of medicine

The idea that there exists in nature any substance capable of directly increasing vitality is perfectly Utopian, and ever since the days of alchemy, has met with well deserved ridicule; but, although there is no substance which is capable of doing this, there are several imponderable agents which can be proved to be essential to life, and which may, not unreasonably, be supposed to be capable of increasing vitality.

These agents are: heat, electricity, chemical affinity, and mechanical force. Each of these is capable of generating any or all of the others; and besides these, there are several other forces with which they are correlated, and which exercise a powerful influence upon the body.

The celebrated S. T. Coleridge has put on record a wonderful theory which, although far from being established, is very ingenious, and shows that he had in view the *unity of force*.

He says, "I affirm that a power acting exclusively in length, is (wherever it is found) magnetism; that a power which acts both in length and breadth, and only in length and breadth, is (wherever it be found) electricity; and, finally, that a power, which, together with length and breadth, includes depth likewise, is (wherever it may be found) constructive agency."

When the fact of the transmutation of several of the forces into each other has once been grasped by the mind, it is easily conceived that any one of the agencies of nature may be made to supplement and assist all the others; and that whatever is most generally available will be the most suitable for the treatment of disease. As an instance of the metamorphosis of power, I may mention *the Osmotic* force, which was formerly thought to be totally distinct from the non-vital agencies, but which is now believed to be simply the transformation of chemical affinity into mechanical power.

If I were asked to classify the agencies which increase vitality according to their relative importance, I would place them in the following order, viz., heat, electricity, chemical action, mechanical motion, magnetism, and light.

In using these agents for the cure of disease we should be careful to imitate, as much as possible, the methods ordinarily pursued by nature; for it follows from what has gone before, that they can only act on living things in accordance with their primary constitution, unless their action is to be of a destructive rather than of a constructive character.

Empirical practice has ever been distinguished by its avowed antagonism to the efforts of nature,

whilst scientific medicine, on the contrary, endeavours to go as much as possible in the same direction.

If, then, we search for the natural mode of disengaging electricity, we shall find that the greater proportion of that force, as it exists in nature, is produced in the three following ways, viz., *by friction, by evaporation, and by change of temperature.* Now, when we consider that the simplest bath cannot be administered without every one of these sources of electricity being present, it will serve to show us how great must be the value of baths as therapeutic agents, and to account for the otherwise unaccountable results of empirical Hydropathy.* Yet there are many baths employed at hydropathic establishments which have not hitherto found their way (in this country) into general use, although freely used in the United States of America. In the words of the *British Medical Journal*, "We have laughed

* The *direct* increase of vitality caused by the development of animal heat and electricity, is, of course, only one out of many physiological effects which baths are capable of producing. As many varieties are already in operation, it would be out of place to attempt here to describe them; but it may be well to disabuse the mind of the reader of the idea that their beneficial influence is chiefly owing to an improvement in the condition of the skin. In the sanitary use of baths this is true; but in a therapeutic point of view it is quite otherwise. The primary influence being upon the nervous system; and the secondary effects being exerted upon the functions of circulation, nutrition, and depuration, thereby accelerating *renewal of tissue*, which is the next best thing to the renewal of life!

at and condemned hydrotherapeia and the Turkish bath, for example; and yet, as we all know, not only the public, but members of the profession derive, and have derived, great benefit from the use of these things." . . . "We ransack the whole world for remedies, and fill our journals with experiments upon the effects of the last worm powder from Abyssinia, or a specific salve for cancer curing, or any other novelty in the way of drugs; but *through some incomprehensible obliquity of vision* of such manifestly powerful therapeutic agents as hydrotherapeia and the Turkish bath, we wash our hands as of things not belonging to the practice of legitimate medicine."

For my part I have long ago made up my mind that the rational and scientific use of heat, friction, and water in various forms, is the true basis of the healing art, and that all other remedies are properly supplemental to these natural agencies, and by no means to be placed on a par with them. Medicines no doubt, are always the readiest and often the *only available* remedies, but in all health establishments, whether for rich or poor, they may be in great part dispensed with when proper appliances are at hand for more permanently beneficial treatment.

The principal indications of the art of healing may thus be classified :—

1. To increase general vitality.
2. To restore equilibrium in its distribution.
3. To obviate local complications.
4. To check abnormal periodic action.
5. To stimulate sluggish functions; and
6. To remove noxious or unassimilable substances from the body.

Each item of this classification might have volumes written upon it, and might be subdivided almost indefinitely, but it is unnecessary here to enlarge upon them, as *the weakness of medicine lies entirely in the want of first principles*, and cannot be attributed to want of carefulness, industry, or intelligence in its practitioners.

If my vanity does not mislead me, I imagine that the theory of vital force is the *key* to unlock all the mysteries of animal life, and that it will be as useful in the *diagnosis* as in the treatment of disease. Thus, when we consider that the amount of nerve force generated in the body at any given time is necessarily limited, it follows that just in proportion as one function consumes more than its fair share, there will be so much less left for conducting the other operations of the system. This may be seen by observing its ordinary distribution, viz. :

Some is required for the maintenance of animal heat.

Some for the superintendence, so to speak, of purely organic functions.

Some for bodily labour and mechanical movements; and

Some for the work of the brain and nervous system, in willing, reasoning, and sensation.

From this we perceive how intense mental emotion may prostrate the body as completely as the exertion of electrical power does the gymnotus or torpedo, and how the function of respiration may be interfered with by influences apparently most unlike one another.

What is there in common between bad ventilation and disappointed hopes, or between scarlet fever and intemperance? Nothing whatever, but that they all debilitate, yet there is not one of them that has not been the origin of pulmonary consumption from this circumstance alone.

We now understand the reason why the sharp fussy man of business, the abstracted theologian, and the eager politician suffer more from so-called disorders of the stomach and liver than the gluttonous Esquimaux who fills himself with raw whale's blubber, train oil, *et hoc genus omne*.

Henceforward medicine is a science in something more than the name, because it is founded

on definitions and axioms which, although not put in the very best form, represent eternal truths that cannot be overthrown. Perhaps the most fundamental are the following:—

1. That life is a *condition* and not a *power*, and that its presence or absence determines the manner in which external forces shall operate.*

2. That the body derives all its working power from without, and neither brings force into the world at its conception, nor carries any out of it at its dissolution.

3. That the materials of which living things are made either lie in the ground or float in the air, and are absolutely indestructible.

4. That every living thing requires the constant renewal of the matter of which it is composed, and the forces on which it is dependent for all *evidence* of life.

5. That in the beginning, God made life,† and the laws of generation, but does not now make individual organisms. Any other hypothesis would

* It cannot be denied that life exists as a condition in a dormant seed, a frozen toad, or in suspended animation; but there is in each of these cases a *total absence of vital force*, until developed by the influence of one or more of the natural forces, which *alone* are capable of developing it.

+ This hypothesis includes the idea of the creation of *distinct species*, and is not to be confounded with the very different theory introduced by Freke, and revived by Darwin.

make him the *direct author* of moral evil and physical deformity.

6. That physical evil results from want of obedience to natural law, and really represents a minor degree of life.

7. That the *natural* body is corruptible, *because the manifestation of its life depends on perpetual change.*

8. That it is (in its material relations) nothing but a machine, whose proper condition is denoted by sufficiency of working-power, and regularity of periodic action.

9. That disease consists in diminished life, accompanied by loss of nervous equilibrium, and irregularity in its intervals of action and repose.

10. That nervous equilibrium may be restored by regulation of personal habits,—by the aid of physical influences,—or by the administration of medicines; but that the *direct* tendency of the latter is always to diminish vital force.

11. That vitality may be increased directly by natural agencies, or indirectly by regulation of function; and, finally,

12. THAT DISEASE CAN BE REMOVED ONLY BY INCREASING VITALITY, BY RESTORING NERVOUS EQUILIBRIUM, AND BY REGULATING PERIODIC ACTION.

Doubtless anybody might have found out this

rule of action, *if it had only occurred to him*; nevertheless, it appears to me to be so simple, just because it is so very great in its universality of application, and in the results which may be expected from its general adoption. I do not pretend to be an Archimedes, but it is allowable to compare small things with great; and I can fully enter into the feelings which we may suppose that philosopher entertained, when, after making his great discovery, he rushed delighted through the streets shouting out,

“*εὕρηκα, εὕρηκα, εὕρηκα.*”*

* TRANS. : “I have found it! I have found it! I have found it!”

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